

The opinion in support of the decision being entered today is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* SEONG-BONG KIM and DONG-UK CHOI

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Appeal 2007-1904  
Application 10/790,081  
Technology Center 1700

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Decided: September 18, 2007

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Before CHUNG K. PAK, THOMAS A. WALTZ, and  
CATHERINE Q. TIMM, *Administrative Patent Judges*.

PAK, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 from the Examiner's final rejection of claims 34 through 36. Claims 27 through 33 and 37 through 39, the other claims pending in the above-identified application, were allowed or indicated to be allowable if they are rewritten to include all of the limitations of the base claim and any intervening claims. We have jurisdiction pursuant to 35 U.S.C. § 6.

### STATEMENT OF THE CASE

The subject matter on appeal is directed to an apparatus for coating a photosensitive material on a substrate, such as a wafer (Specification 1).

The apparatus includes, *inter alia*, a coater having a discharging unit for discharging a photosensitive material to the substrate, a transfer unit for moving the discharging unit along a surface of the substrate, and a detector for detecting foreign matters on the substrate, and a remover for removing the foreign matters from the substrate (Specification 6). According to page 20, paragraph [0077], of the Specification:

[T]he transfer unit 1120 is in danger of colliding with [the] foreign matters on the unit substrate 1500. The foreign matters on the unit substrate 1500 cause a fatal process failure during subsequent process, and particularly, foreign matters of high hardness cause fracture of the discharging unit 1100 [sic., 1110] or unit substrate 1500. Furthermore, the foreign matters may cause a fatal scratch on the unit substrate 1500 in case that the foreign matters are adhered to the discharging unit 1110 and dragged along the surface of the unit substrate 1500. Therefore, a detector 1200 is installed in front of the coater 1100.

Implicit in this disclosure is that the detector is moving in the same direction as the discharging unit in front of the discharging unit to detect any existence of foreign matters. Details of the appealed subject matter are recited in representative claim 34 reproduced below:

34. An apparatus for coating a photosensitive layer on a substrate, comprising:

a support supporting a substrate having a plurality of unit substrates on which a photosensitive material is coated;

a coater including a discharging unit for discharging the photosensitive material onto the unit substrate and a transfer unit for moving the discharging unit along a surface of the substrate, the coater coating the photosensitive layer on the substrate by the unit substrate;

a detector disposed in front of the coater, the detector detecting foreign matters on the surface of the substrate; and

a controller controlling the coater and the detector.

The Examiner has relied upon the following prior art references as evidence of unpatentability:

Morton	US 3,753,085	Aug. 14, 1973
Benner	US 3,924,565	Dec. 9, 1975
Chase	US 5,575,852	Nov. 19, 1996
Kaya	US 6,398,870 B1	Jun. 4, 2002

The Examiner has rejected the claims on appeal as follows<sup>1</sup>:

- 1) Claims 34 through 36 under 35 U.S.C. § 103(a) as unpatentable over the combined disclosures of Kaya and Morton; and
- 2) Claims 34 through 36 under 35 U.S.C. § 103(a) as unpatentable over the combined disclosures of Kaya, Morton, Chase, and Benner.

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<sup>1</sup> According to page 2 of the Answer, “[t]he rejection of claims 34-39 under 35 USC 112, second paragraph [set forth in the Final Office Action dated March 28, 2006] is withdrawn.”

The Appellants appeal from the Examiner's decision rejecting the claims on appeal under 35 U.S.C. § 103(a).

## FACTUAL FINDINGS, PRINCIPLES OF LAW, ISSUE, and ANALYSIS

Under 35 U.S.C. § 103, the factual inquiry into obviousness requires a determination of: (1) the scope and content of the prior art; (2) the differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) secondary considerations (e.g., unexpected results). *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966). “[A]nalysis [of whether the subject matter of a claim would be obvious] need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1740-741, 82 USPQ2d 1385, 1396 (2007) quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336-337 (Fed. Cir. 2006); *see also DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1361, 80 USPQ2d 1641, 1645 (Fed. Cir. 2006)(“The motivation need not be found in the references sought to be combined, but may be found in any number of sources, including common knowledge, the prior art as a whole, or the nature of the problem itself.”); *In re Bozek*, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969)(“Having established that this knowledge was in the art, the examiner could then properly rely, as put forth by the solicitor, on a conclusion of obviousness ‘from common knowledge and common sense of the person of ordinary skill in the art without any specific hint or suggestion in a particular reference.’”).

Applying the above principles of law, the Examiner has found (Answer 3) that:

KAYA ET AL teaches the design of an apparatus for coating a substrate comprising: a support 7 supporting a substrate; a coater 3 including a discharging unit for discharging the coating onto substrate and coating the substrate; a detector 1 for detecting coating defects which can include foreign matters on the surface of the substrate, and a controller controlling the coater and the detector. KAYA ET AL teaches the nozzles are movable in accordance with which reads on the term "along" the shape of the substrate (see column 2 line 52 to column 3 line 35).

As is apparent from the above findings, the Examiner has relied on a conveyor belt 7 as corresponding the claimed support, a marking block comprising having piezo pumps and a nozzle as corresponding to the claimed coater having a discharging unit, moving means for moving and pivoting piezo pumps and nozzles as corresponding to the claimed transfer unit for moving the discharging unit, an imaging block (detector) as corresponding to the claimed detector, and a system controller as corresponding to the claimed controller.

The Appellants have not disputed that Kaya teaches the claimed support, detector, transfer unit and controller (Br. 4-17). We find that substantial evidence also supports the Examiner's finding that the marking device taught by Kaya is capable of coating a photosensitive layer on a substrate having a plurality of unit substrates. We find that Kaya indeed teaches employing the discharging nozzle of its marking block to provide a jet of a marking solution towards car body surfaces (corresponding to surfaces of the claimed plurality of unit substrates) "in the form of a circle of

about 5 mm in diameter precisely onto the detected spot..." (col. 2, l. 52 to col. 3, l. 52). The Appellants have not provided any objective evidence to demonstrate that Kaya's marking device is not capable of coating a photosensitive layer on a substrate having a plurality of unit substrates. *See In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1432 (Fed. Cir. 1997) (while there is nothing inherently wrong with using a functional limitation to define an apparatus, it does carry with it a risk; the burden is placed on the applicant to prove that the prior art apparatus does not necessarily possess the functional characteristics of the claimed apparatus, when the claimed and prior art apparatuses appear to be identical or substantially identical); *see also In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977).

The dispositive question is, therefore, whether Kaya teaches placing a detector "in front of" the marking device as required by claim 34.<sup>2</sup> On this record, we answer this question in the affirmative.

As is apparent from col. 2, l. 6, to col. 3, l. 48, of Kaya, its detector is located "in front of" (in advance of) a marking device to detect any defects on surfaces of a vehicle so that the marking device can subsequently be used to mark the defective area detected by the detector. The claim language "in front of" does not exclude the location of the detector taught by Kaya. *See, e.g., In re Morris*, 127 F.3d 1048, 1054, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997) ("[T]he PTO applies to the verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art."); *In re Zletz*, 893

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<sup>2</sup> The Appellants' arguments are limited to the limitations of claim 34 (Br. 4-17). As such, we limit our discussion to claim 34 pursuant to 37 C.F.R. § 41.37(c)(1)(vii).

F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) (“During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow.”).

## CONCLUSION

For the foregoing reasons, we affirm the Examiner’s decision rejecting the claims on appeal under 35 U.S.C. § 103. However, pursuant to 37 C.F.R. § 41.50(b)(2005), we denominate our affirmance as including a new ground of rejection since our reasons for affirming the Examiner’s rejections are materially different from those proposed by the Examiner.

This decision contains a new ground of rejection pursuant to 37 C.F.R. § 41.50(b) (effective September 13, 2004, 69 Fed. Reg. 49960 (August 12, 2004), 1286 Off. Gaz. Pat. Office 21 (September 7, 2004)). 37 C.F.R. § 41.50(b) provides “[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review.”

37 C.F.R. § 41.50(b) also provides that the Appellants, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

(1) Reopen prosecution. Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceeding will be remanded to the examiner. . . .

(2) Request rehearing. Request that the proceeding be reheard under § 41.52 by the Board upon the same record. . . .

Appeal 2007-1904  
Application 10/790,081

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a )(1)(iv)(2007).

AFFIRMED/§41.50(b)

sld/ls

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